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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,188	11/14/2003	Chad A. Cobbley	2269-3437.8US (97-0514.08)	9360
24247	7590	05/06/2004	EXAMINER OWENS, BETH E	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			ART UNIT 2824	PAPER NUMBER

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/714,188

Applicant(s)

COBBLEY ET AL.

Examiner

Beth E. Owens

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03082004; 11142003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9-14 of U.S. Patent No. 6,329,832. Although the conflicting claims are not identical, they are not patentably distinct from each other because independent claim 1 of the instant application and independent claim 9 of patent 6,329,832 differ only in the preamble; the body of the claims are identical (the amendment to change "said" to --the-- throughout the claim 1 does not alter this). Replacing "a method for packaging" with "a method for electrically testing" in the preamble does not alter the scope of the claim as the body of the claim recites a method for both. The dependent claims of both the instant

application and the patent recite the same limitations with only a minor variation in language.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al.

In regards to claim 1:

Davis et al. disclose providing at least one integrated circuit die having bond pads on a surface thereof (col. 4, lines 43-45); providing a substrate having electrical pads for mounting the at least one IC die thereto (col. 4, lines 23-25); placing dry conductive epoxy dots on the electrical pads on the substrate (col. 4, lines 38-41; col. 5, lines 9-17); attaching the at least one IC die to the substrate with the bond pads of the at least one IC die in contact with the dry conductive epoxy dots on the electrical pads on the substrate to form the flip-chip semiconductor assembly (col.5, lines 35-43); testing the flip-chip semiconductor assembly (col. 5, lines 55-68; col. 6, lines 1-

4); if the flip-chip semiconductor assembly fails testing, then reworking the flip-chip semiconductor assembly and retesting the flip-chip semiconductor assembly or scrapping the flip-chip semiconductor assembly if the flip-chip semiconductor assembly has already been reworked a preset number of times (col. 6, lines 17-26).

In regards to claim 2: column 4, lines 30-32.

In regards to claim 3: column 5, lines 9-17.

In regards to claim 4: column 5, lines 35-43.

Davis et al. however are silent in regards to encapsulating the at least one IC die on the substrate if the flip-chip semiconductor assembly passes testing and speed grading the at least one IC die and speed grading after testing the flip-chip semiconductor assembly. Examiner takes Official Notice that these are common practices known to one ordinarily skilled in the art at the time the invention was made for the purpose of quality control during manufacturing.

5. Additional prior art which is deemed relevant to the claimed invention in this application but was not used in any of the formal rejections discussed above is found in "Conductive Epoxy Flip-Chip Package and Method" by Pedersen et al.

6. The following prior art, which is considered pertinent to applicant's disclosure although not relied upon, includes "Thermally Reworkable Binders for Flip Chip Devices" by Iyer et al.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth E. Owens, Ph.D. whose telephone number is 571.272.1882.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms, can be reached on 571.272.1869. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306 for official communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571.272.2800.

BEO 05.03.04


VAN THU NGUYEN
PRIMARY EXAMINER